

**MARQUETTE**

# **BUSINESS REVIEW**

**Spring, 1961**

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## **MARQUETTE BUSINESS REVIEW**

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## HISTORY OF BANKING IN WISCONSIN

E. J. Ruetz\*

Banking in the development of Wisconsin provides an interesting study. Its contribution to the economy has had much to do with the prosperity periods that the state has enjoyed, as well as the financial setbacks which history records in our state.

The first bank in Wisconsin was the Bank of Wisconsin, located at Green Bay. The bank was established in 1835 with a capitalization of \$100,000. Seven other banks were chartered by the territorial government, but only two of them were successfully organized. Three of them -- the Bank of Racine, the Bank of Iowa at Burlington, and the Bank of Milwaukee -- failed to meet the necessary capital. The charters for the Bank of Wisconsin at Prairie du Chien and the State Bank of Wisconsin failed to receive congressional approval and were repealed by the Wisconsin legislature.

The charters for the Bank of Mineral Point and the Miners Bank of Dubuque were granted in 1836. The charters of these two banks provided for:

1. Capital of \$200,000 -- 10% of which was to be paid-in upon activation.
2. The debts of the bank, which consisted primarily of bank notes outstanding, were not to exceed three times the paid-in capital.
3. Interest charges on loans were limited to 7 percent.
4. Reports on the condition of the bank were to be made to the legislature.

The three territorial banks met with disaster when the panic of 1837 hit Wisconsin. The panic was a severe one, causing immediate cessation of almost all credit and widespread business failures.

The dissolution of the territorial banks followed quickly after Henry Dodge, Governor of the territory, instituted a series of investigations into their operations. The investigating committee reported that the banks had suspended specie payments, and had issued notes in amounts that exceeded three times their capital. In 1838 the Miners Bank of Dubuque was transferred to the jurisdiction of the territory of Iowa, thereby relieving Wisconsin of the necessity of liquidating it. In the liquidation of the other two banks, the creditors received from 20 to 25 cents on the dollar.

The failure of territorial banking was significant in that it influenced Wisconsin's later economical development. It revealed the vulnerability

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\* Mr. Ruetz is President of the Wisconsin Bankers' Association; this article was an address to the Banking Seminar sponsored by The Association of Reserve City Bankers in Milwaukee, Wisconsin, on March 2, 1961.

of banks to business declines, and also the fact that they had been operated recklessly and that supervision of them was difficult. As a result, banking in Wisconsin was prohibited from 1841 to 1853. Some illegal banking, however, was carried on during that period.

Thereafter, two Scotchmen carried on a banking business under a charter issued to an insurance company. The charter granted the customary rights and privileges accorded insurance companies, including the right to accept deposits and make loans. It specifically prohibited the exercise of any banking privileges, as did the charters of churches, after the failure of the bank in 1837.

The company was known as The Wisconsin Marine and Fire Insurance Company and was located at Milwaukee. The company was authorized to issue \$500,000 of common stock at a par value of \$25 per share. The company sold some fire insurance policies to draw away suspicions about its main business of banking. In order to provide currency for its customers, in view of the prohibition on the issuance of notes, certificates of deposit were issued to employees and friends, and then these certificates were loaned out, serving as money. They soon acquired the reputation of being "as good as gold," since the company was always prepared to redeem them in gold.

This insurance company became so influential in the banking business that competing banks in the neighboring states brought pressure upon the Wisconsin Legislature to have the charter revoked on the grounds that the insurance company was exercising banking privileges. In 1846 the legislature repealed the charter, but refused to permit the Attorney General to commence legal proceedings against the company. The legislature's action proved to be ineffective for neither the insurance company nor its customers were disturbed over the fact that the company no longer had a charter.

Rural banks in very booming states combined to discredit the company, even by means of an engineered run on its reserves. The company met the run and survived, and continued to operate successfully until 1853, when the owners reorganized under the new Wisconsin banking law enacted in that year. The two Scotchmen, Smith and Mitchell, who had organized the Wisconsin Marine and Fire Insurance Company had demonstrated that, despite the fact that their demand liabilities had greatly exceeded their gold reserves, by skillful and conservative banking they were able to keep their company solvent. This display of successful banking had much to do with the ultimate legislation of banking in Wisconsin.

A large part of the 1852 legislative session was devoted to the formation of a banking law. There were two types to choose between -- 1) Charter Banking, which had been practiced in Wisconsin Territory, and 2) Free Banking, which would permit any group that complied with the provisions of the banking law to establish a charter. The legislature decided on Free Banking, partly because it was more democratic and partly because it did not involve separate regulations for each bank. The minimum capital for which a bank could organize was \$25,000 and the



maximum was \$500,000. The law provided that, if any bank refused to redeem its bank notes in specie, the bank's comptroller, after giving the bank thirty days in which to redeem them, was authorized to sell the collateral securities and publish notices that he was prepared to redeem the notes of the defaulting bank. If, in the face of a decline in the value of the collateral, the bank failed to put up more securities, as the comptroller directed, he was to apply to the courts for the appointment of a receiver to take over the bank.

The banks were required to make semi-annual reports to the comptroller, showing much the same information as required in present day call reports.

Interest on loans was limited to 10 percent and the law provided for double liability of bank stockholders.

The law was submitted to the people in 1852, and was approved by a vote of 32,826 to 8,711.

The first bank organized under the new law was the Bank of Wisconsin at Mineral Point. This bank met disaster, however, less than two years later. Its principal owner, a man by the name of Washburn, was a candidate for congress. Two of the state's newspapers printed out that a bank which he also owned in Maine had failed. This was not the truth, and the newspapers printed a retraction a few days before the election. The harm had been done, however, and the bank failed. It should be further said that no doubt the panic of 1854 also had an effect upon the bank.

Beginning in 1853, Wisconsin banks demonstrated more clearly their ability to finance a large part of the state's economic development. Bank loans increased at the rate of a million a year, contributed substantially to the tripled increase of industrial output during the decade of 1850 to 1860. Between 1853 and 1859 the number of banks increased from eight to 108, loans from \$640,000 to \$6,480,000, and capital from \$530,000 to \$7,580,000. This growth of the banking business was partly attributed to the ease with which banks could be established and banknotes issued. Easy credit contributed to the construction of factories and the development of resources.

Despite the important contributions that State Banking made to Wisconsin's economic growth in the 1850's, it became apparent that our laws were deficient in many ways and required revision.

The first amendment to the law of 1852 was passed in 1858. It provided that the comptroller was to issue bank notes only to banks doing a regular discount and deposit business in a city or village in a township having at least 200 voters. It was also stipulated that railroad bonds could not be accepted as security bank notes. These changes did much to eliminate wildcat banking.

In 1858 the Association of Banks of Wisconsin was organized. In

the organizing group there were 45 banking institutions. During the Civil War period the Wisconsin banks continued to have serious problems principally because of the unsound policies of several banks. The Association eliminated the undesirable banks by using the same method as individual banks used to force out competitors. The members of the Association collected the notes of the banks to be eliminated and sent them to Milwaukee. When a sufficient number of them had been collected, they were presented for redemption until the bank's specie had been drained. The remainder were protested, thereby forcing the bank to liquidate.

In February 1863 Congress established the National Banking System. Little attention was paid to it at first in Wisconsin, because the State's currency was in good condition and the Bankers Association was effectively policing the banks. Since National Banks were subjected to more rigid restrictions than State Banks, bankers here found little reason to seek National Charters. Further, and probably the most important reason, was the fact that National Banks were required to buy and possess United States bonds.

The first Wisconsin bank to join the National System was the Farmers and Millers Bank of Milwaukee, which became the First Wisconsin National Bank in September of 1863. By converting to a National Bank, the Wisconsin bank expected to obtain a currency that would circulate more widely and for longer periods, and would therefore be more profitable.

The revival of State Banking took place after 1870. The use of personal checks dated from territorial days, when Marshall and Hsley offered checking facilities to persons opening deposit accounts. Only a few wealthy individuals availed themselves of this privilege and their checks did not circulate much outside of the local community. The expansion of the deposits of the Wisconsin State Banks illustrated the development of checks. Between 1865 and 1880, deposits decreased by \$7,000,000. The increase in the deposits was primarily the result of a \$7,000,000 increase in bank loans. This great increase in bank credit could not have taken place had not checks become generally acceptable as a medium of exchange.

Another factor in the revival of State Banks was the failure of National Banking to expand vigorously. Also contributing was the ease with which a State Bank could be chartered. Capital of only \$25,000 was required, but only 60 per cent had to be paid in. Between 1870 and 1874 resources of State Banks doubled. The depression years from 1873 to 1879 halted the advance temporarily, and between 1880 and 1893 the number of State Banks increased from 29 to 119 and resources from \$13,000,000 to \$50,000,000. During the period from 1847 to 1895 many private banks were also operating, but their total resources were but \$6,700,000. They generally provided banking services for the very small communities that could not support a bank with larger capital requirements.

The panic of 1893 brought forth another serious period in the history of Wisconsin banking. Several banks were forced to close, the largest of which was the Plankinton Bank of Milwaukee. A serious run on the

First National Bank of Madison was successfully met when the institution was able to bring in a large amount of gold in a conspicuous manner. It was at this time that the Wisconsin Marine and Insurance Company failed. Altogether, 27 banks closed their doors permanently in 1893.

These failures made clear the need to strengthen the banking system, and for the first time in Wisconsin the serious attention of legislators, bankers and other interested citizens was directed to the problem. In the period between 1895 and 1903 more major changes were made in the State Banking laws than in all the rest of the century between 1848 and 1948.

The legislative act of 1895 provided for a bank examiner. The examination of the banks helped to build public confidence.

In 1903 the legislature enacted a measure which set up the State Banking Department, and he and his department were required to examine banks once a year. He could make additional examinations at the request of the Board of Directors. He was given broad powers in his jurisdiction over banks and many of the authorizations he has today are the result of the act of 1903.

The act of 1903 prohibited private banking. This provision of the act was tested and the Wisconsin Supreme Court ruled in favor of the constitutionality of the law.

In the years 1923, 1925, and 1927 the capital requirements of banks were increased.

In the period between 1900 and 1921 the number of banks increased from 143 and 827. This resulted from the state's requiring only about one fourth of the capitalization demanded by National Banks. Another reason for the growth was the fact that banking was profitable. The profits of one Milwaukee Bank in the period from 1900 to 1906 rose from 8 per cent on net worth to 27 per cent.

In order to check the greatly increased number of banks being organized, the legislature in 1913 authorized the Banking Commissioner to deny new charters that would be detrimental to the public welfare. In reaching his decision, he was permitted to take into consideration the applicant's general reputation and qualifications. These standards, together with others, are still a part of the present law governing the chartering of new banks.

In 1921 Wisconsin had 827 State Banks, an average of one for every 2,400 persons, whereas the average for the United States as a whole was one for every 4,400 persons. Obviously, the state at that time had an overgrown banking system. Since many of these banks were small, it was inevitable that the banking system would become progressively more competitive. The competition between 1921 and 1929 was so high that the rate of failure in Wisconsin during that period was six times that of the period from 1903 to 1921.

During the 1920's the Banking Department and the Wisconsin Bankers Association combined their efforts to strengthen the banking system. A reduction of interest rates from 4 per cent and 5 per cent to 3 per cent was adopted. The number of free services rendered to customers was reduced. The banks could not have done this individually lest they lose customers, but by working together they could build up their earnings.

Between the years of 1900 and 1929, branch banking came into existence and several mergers were accomplished during that period, among the more important being the Kellogg National Bank and the Citizens National Bank of Green Bay, and the First National Bank and the Wisconsin National Bank of Milwaukee to form the First Wisconsin National Bank. This bank, as you no doubt know, is the largest bank in the state. During the same period, Group or Chain Banking also came into existence, with an individual controlling as many as four or five banks. Group Banking in this state originated as a reaction against the growth of two Minneapolis group-banking systems which threatened the continuance of small Wisconsin banks. Despite the trend toward concentration in banking, the State was seriously over-banked when the Depression set in late in 1929.

The Depression period, more particularly the earlier part, presented a most difficult problem for all banks in Wisconsin and throughout the nation. Several closed, never to reopen. It is likely that many of those that closed might have survived if it were not for the runs upon them, in most instances caused by unfounded rumors and fear.

The experiences of the early Depression years brought forth several reforms and laws which strengthened the banking structure. Among these were the R. F. C. and the F. D. I. C. Limitations were placed on the investments which banks could make. Interest payments on demand deposits were prohibited. The Federal Reserve Board was authorized to establish maximum rates of interest on time deposits. The minimum capital required for banks located in areas of 3,000 population or less was increased from \$25,000 to \$50,000. The Federal Reserve Board was authorized to remove officers and directors of member banks who were adjudged guilty of continued bank violations or of unsound banking practices. Speculation credit extended by banks was placed under regulation. The State of Wisconsin, too, adopted additional legislation, including the enlargement of the Banking Board of Review to five members and other rules and regulations that strengthened the banking structure of State Banks.

Branch banking increased steadily between 1929 and 1947. By 1939, 81 banks were operating 126 branches and by 1947, 91 banks were operating 150 branches, these figures including paying and receiving stations. The legislature then passed the law that is still on our statute books prohibiting the establishment of any new stations.

At the start of the Depression Wisconsin had 933 banks; by the end of 1933 this had dwindled to 445, but by 1936 the number had risen to 605.

Following the banking moratorium and the enactment of emergency

legislation by the Federal and State governments, the banking structure of the State underwent a number of important changes. The most important of these were the increasing liquidity of banks, the trend toward larger and fewer banks, and the increased restrictions on competition among banks.

#### NOW AS TO THE FUTURE ...

During a century of operations Wisconsin banks have witnessed the State's economic development, four major depressions, three great wars, and numerous changes in business and governmental institutions. It now appears that stability has been achieved, and that Wisconsin's banks will be free to help finance the next century of development without suffering the periodic declines and catastrophes that have characterized the past. I think there is little doubt that banking will continue to move with the times, as it has in the past. If those who operated the banking system before our time could finance in a large part the expansion of the nation across the continent and its development into a major industrial country in the Nineteenth and Twentieth Centuries, with what has sometimes been called the world's worst banking system, then present and future challenges should not frighten us.

## THE ROLE OF MATERIALS MANAGEMENT

Ed Heineman\*

The subject of Materials Management has many opponents as well as proponents. It seems to me that this division of attitude is actually a rather good indicator since, if everyone were against it, chances are it would probably be the best idea in the world. On the other hand, with something less than 100 per cent acceptance today, it probably indicates that the concept has perhaps only limited application to certain kinds of businesses. I do not necessarily wish to debate this point with you, other than to indicate that I believe it is extremely important, not only from the point of view of the particular companies for which you work, but as well for your own individual personal interests. We need not all be in favor of Materials Management, but I feel that there is hardly any excuse for any of us not to have a talking knowledge of what people mean by the term.

This morning, therefore, I am going to try to give you my personal evaluation of this subject and some personal experiences in terms of the organization of which I am a member. First of all, let me assure you that I am not trying to "sell" you anything. Whether you should be in favor of Materials Management and, perhaps more importantly, whether you should recommend the establishment of Materials Management in your respective companies, is a matter about which I shall have no strong opinion. On the other hand, during the entire course of my remarks, I shall encourage you continually to look at the subject, evaluate it, consider it, and apply any or all portions that you think may be of benefit to you. I am really quite sincere on this matter and for a quite selfish reason. If I can convince you at the very beginning that I am not "selling," I believe that you will perhaps be more receptive to the thoughts and the concepts that I will discuss with you, and perhaps you will have somewhat more of an open mind in evaluating them. If, when we are all through, I have been successful in achieving with each of you some degree of understanding of what the subject is, what the problem is that industry faces in regards to Materials Management, I shall consider the time eminently well spent. Conversely, if each and every one of you should tell me later in the day that you think I am right and that you are all immediately going to go back and sell the Materials Management concept, I shall certainly have been too much of a salesman. I shall undoubtedly have misrepresented the product and shall have missed the objective completely.

Incidentally, I believe that the location on this program which I enjoy is quite significant. I understand that yesterday you discussed the subject of Profit Management, and had a most interesting presentation on Value Analysis. Tomorrow you are going to cover the subject of Internal Communication. I look upon this program as somewhat of a sandwich.

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\* Mr. Heineman is Manager, Materials, at General Electric Company. This article was presented as an address to the Purchasing Management Seminar, held at Marquette University on May 9, 10, and 11, 1961, in cooperating with the Milwaukee Association of Purchasing Agents.



The slice of bread on top is the subject of Profit Management, the slice on the bottom, Internal Communications; with the meat -- or Materials Management -- in the middle this makes a most delectable sandwich. There could, however, be many kinds of good, appetizing sandwiches; just about any business subject could be put in the middle and you would end up with a fine menu. Without minimizing the importance of the subject of Materials Management, I would like to impress upon you my personal opinion that the two subjects of Profit Management and Internal Communications are extremely basic to any discussion which a group of businessmen might have, and they could apply equally well to any area of the business. Could not this second day of the Seminar have been just as beneficial had the subject been Engineering Management, Financial Management, Direct Labor Management, Inventory Management, or what have you, in terms of having been preceded by a discussion of Profit Management and followed by Internal Communications? In fact, if we could all become really proficient in the areas of Profit Management and Internal Communication, it is not inconceivable that we should be well on the road to solving all of the other problems that we might put in the middle of our sandwich. It is because, in the over-all business viewpoint, we do not do a good enough job of Profit Management that we do not do a good enough job of Internal Communication, and that it is therefore necessary for us to bring our light and focus on such narrower subjects as Materials Management.

Let us, then, turn to Materials Management, turn the spotlight on brightly, and see what we can discover. Fortunately, or unfortunately, depending on your point of view, the question of "what is Materials Management" is one which has no simple, short answer; nor, in fact, is there a slightly longer answer which I can give completely this morning. In fact, I do not believe that we should necessarily be looking for answers per se; rather, our objective should be that of understanding.

Before beginning to attempt to answer the question, "what is Materials Management," let me say that in the opinion of many people, and certainly of those that are proponents of Materials Management, it is believed that this area is one of the few remaining, and perhaps the most profitable area yet available to general management for the achievement of operating efficiency and reduced manufacturing cost. No doubt this statement could be debated at some length, but generally speaking the people who are proponents of Materials Management are motivated from the point of view of achieving improved operating efficiency and reduced manufacturing cost; in a nutshell, greater profitability. To me, this is a most significant point. The fact that many times the concept is pushed within a company by individuals who are farther up in the organizational ladder than would be directly influenced by any such decision certainly supports the contention that the motivation is for improved operations and greater profitability rather than the empire type of thinking. Again, I mention this and make this point only in order that we might approach the subject with an open mind.



## What Is Materials Management?

One of my college professors said that the best way to answer a question was to ask a question in return. Let us try that technique by posing two more questions -- "What is Management?" and "What is Materials?" Let us first consider what is Management. Webster defines it as "the act or art of managing, conduct, control, direction. The judicious use of means to accomplish an end."

I am sure that we all agree that the trend towards professional, scientific management has accelerated greatly in the last ten or fifteen years. One need but look at the new literature available and the number of management consulting firms flourishing today for proof. Perhaps the single best example is the American Management Association, and all of its courses and literature in this general area. We might, if we had the time this morning, consider and try to list those areas of our business where we believe we have achieved the greatest progress in terms of obtaining improved professional, scientific management. If your company is one that is predominantly oriented towards Engineering, I should be willing to give considerable odds that your management believes they have achieved real progress in Engineering Management. Likewise, almost all companies tend to pride themselves on the advances which they have made in the area of better management of their direct labor or shop personnel. One need but think in terms of time studies, motion and time analysis, and incentive and group payment systems as concrete examples of things implemented over the years and highly polished in the more recent years, all directed at achieving better management of the business.

Really to get at this question of what is Management, however, we should perhaps look at the basic tools of management; some people even go so far as to call them the scientific tools of management. Because of my familiarity with General Electric terminology, I will use it with apologies, but I am sure that each of you can translate our terminology into the language most common to your respective companies.

The term POIM has been, of course, coined by taking the first letter from each of the words, PLANNING, ORGANIZING, INTEGRATING, MEASURING. Let me briefly describe each of these.

Planning is the establishment of objectives, goals and plans for either the entire business operation or all of the individual sub-functions of which it is comprised. Planning can either start at the bottom of the organizational ladder and work up, or you can start at the top, with the entire business organization, and work down to the lowest organizational components. In either case, and in any event, planning is the setting of the path, the charting of the course.

Organizing is simply the logical structuring and grouping of functional activities so as to be most effective, efficient, and particularly, to eliminate duplication. You can have as many concepts of organization as people with whom you discuss the subject. I am sure that there is no one best solution to the organizational problem. The truly important

aspect of organization is that there must be a logical approach to how the business is structured, and a logical grouping together of activities, in order to achieve the effective and efficient operation that is necessary so as to be competitive in the environment in which we live.

Integration is the voluntary working together or mutual supporting of all the factors and functions which depend upon each other for successful operation. Some people call this teamwork, but by whatever name is applied, it is the ingredient that is least tangible because it must come voluntarily from inside people. Integration is, of course, dependent in many respects upon the quality of planning that is accomplished in a business enterprise, as well as the adequacy of the organizational structuring that is accomplished. The quality and effectiveness of the progress that is achieved in communication is also a most significant factor. But over and above all of the things which a business can do in terms of planning, organizing, communicating, and so forth, there is this additional factor of integration which is a human quality of the people who comprise the business. Integration was defined as the voluntary working together, the mutual supporting of the factors and functions which depend upon each other for successful operation. It is the kind of thing that cannot be legislated, but it can certainly be assisted. Perhaps a simple example of integration would be the successful efforts of all the people who worked to make this Seminar a success. In addition to all the sheer hard work that was put into the preparation, there certainly was a great amount of integration that was achieved in resolving the differences of opinions, viewpoints, and approaches. In my opinion, integration or teamwork is a most important aspect of any business enterprise and if it could be measured, certainly would be a good barometer to equate how strong and how well a business is.

Measuring, the fourth term in our word, POIM, is the feedback process that tells us how well we have done or not done in the other three factors of planning, organizing, and integrating. Although it is the item we probably know the least about, or at least how to do, its importance is not diminished. Measuring is like the speedometer on the car when you enter a restricted speed area. Unless you have some indicator to tell you how fast you are going, whether you are actually accelerating or slowing down, you run a pretty good risk of getting a ticket. Measuring in the business sense is no different. Unless we have the means and avail ourselves of the techniques available, we really do not know, as a matter of fact, whether the business is improving, standing still, or going backwards. In simple terms, these then are the tools of professional management.

To go back to Webster, he said that managing is the judicious use of means to accomplish an end. To sum up, then, management is the skillful and scientific application of resources, money and people to accomplish the end of profit. And let me add, rather emphatically, profit not in the negative sense, but in a most positive aspect.

We must next answer the question, "What is Materials?" Rather than giving you my interpretation or definition, let me try to dissect a

business operation and see what "falls out" as materials. For the time being, I think each of us should try to forget our own individual organization or structuring; in other words, to get rid of our bias.

In simplest terms, every business must consist of four basic aspects. First, the technical, wherein we design, create; second, fabrication, where we assemble or change the form of materials; third, the test phase, where we assure the quality or performance; and the final aspect, that of packing and shipping, which of course is the distribution process. Quite frankly, from such an approach, I have neither been able to discern the Materials function, nor attempted to justify it. But I do not believe we should give up attempting to answer the question, "What is Materials?" Certainly it has to exist in every business in some form, fragmentized or otherwise. Earlier, I said that profit was the basic objective or end purpose of management. Perhaps by looking at this subject we can get the answer to our question. To do so, let us look at a sales billed statement, which typically might look like this:

	<u>RANGE</u>
Materials	20% - 70%
Labor	5% - 20%
Overhead	5% - 20%

#### SHOP COST

Engineering	2% - 40%
Test - Quality Control	5% - 10%

#### MANUFACTURING COST

General and Administrative	10% - 25%
Profit	too small%

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#### SELLING PRICE = SALES BILLED

Now, I have obviously taken liberties not only with the format of my sales billed statement, but with the percentage breakout as well. I am willing, however, to predict that an average of all companies represented by this group would have at least a resemblance to this approach.

If we explore this we find that the financial or accounting function that prepares or publishes the data is organized and recognized as an integral function. Generally they represent but a fraction of the cost of the General and Administration percentage. Marketing, Engineering and Quality Control are similarly usually well identified and functionalized in a business operation. I would almost be willing to bet that there is not a single company represented here today that does not have both a top Engineering Manager and a top Quality Control Manager. Manufacturing, which actually is also always well identified, might account for as high as 60 to 70 percent of the total cost of doing business.

All too frequently, Manufacturing is overly concerned with labor costs to the exclusion of proportional concern and effort for what may be the largest single cost factor in the whole listing -- material. I conclude, therefore, that the answer to what is Materials Management is not necessarily organization, it is not a matter of nomenclature, but an attitude, a philosophy, or a way of life.

Should a business be as aggressive and progressive -- in short, professional -- in the manner in which it covers the entire cycle of material activity as it is in other phases of its business? Can it afford not to be?

Pride is frequently taken in the calibre of a company's Engineering staff or Marketing organization. Seldom, however, do you hear either of recognition for or of publicity about the competence obtained in the Materials area of a business.

At this point, I suspect very strongly that someone is asking, "Why the fuss?" A company can break up the work involved and the total material dollars among many functional groups and the work gets done anyway. Someone can even name large and prominent companies that are successful and that do not have Materials organizations per se. To this I would have to indicate my complete agreement, but add the comment that, regardless of how a company is organized or how they group the various Materials activities, there is undoubtedly the right attitude towards the whole work package. However, I am ahead of myself. I believe we have obtained the answer to what is Materials. Briefly stated, it is that total work package of related functional activity that contributes to and causes the dollar expense for the cost category of material.

Before going any further into greater detail as to what is Materials Management, I should like briefly to indicate some things it does not include. Certainly the Engineering activity of specifying the design is not included, nor is the fabrication or assembly labor that changes or alters the physical appearance of raw materials. Testing the product and selling or marketing the product is also not included. To my mind, the integrated materials concept does, however, include responsibility for the following:

1. determination of requirements for materials and components with regard to both quantity and time;
2. the actual purchase of materials and components, including all the related activities of price determination and evaluation, selection of suppliers, expediting, price checking, negotiating, and so forth;
3. receiving and verifying incoming material;
4. storing and accounting for material stocks;
5. price analysis of purchased items and purchase price comparisons for internally manufactured items;
6. the determination of proper commodity classifications for all

incoming and outgoing shipments;

7. selection of mode of transportation and carrier for both the incoming and outgoing shipments, including routing to and from our plants;
8. factory load planning and capacity determination;
9. detailed production scheduling for both special customer orders and stock orders;
10. load dispatching, including the release of work in accordance with the required priority sequence and consistent with work station capacities.

While this list may not include all of the responsibilities that people may consider within the scope of Materials work, it does indicate that the responsibility generally includes the determination of material requirements and the control, use, scheduling, price, storage and movement of this material throughout the entire manufacturing cycle, and at least part of the distribution cycle. For the most part, I do not wish to attempt to become too definitive as to just how all-inclusive Materials Management may be. That must always be decided upon by the individual business that is considering the subject. I believe, however, that we should be very definitive and very positive that Materials Management is basically an attitude, approach or concept as I have previously mentioned. One thing it is not -- it is not merely moving the Purchasing Agent up the organizational ladder, although I am not against this. Rather, it is the recognition and acceptance of the fact that the many functional types of Material activities are closely related and inter-related. Decisions or lack of them in one area seriously may affect the other areas. Actions or lack of action in one area may seriously affect the other areas. The Purchasing Agent is not solely responsible for the price, quality, and timeliness of vendor items. You add on the functions of Production Planning and Scheduling, Inventory Control, Stores, Receiving, and Shipping and you come much closer to arriving at an organization that approaches being solely responsible, certainly to a major extent. Incidentally, I might add here that Value Analysis is certainly another function that can logically become a part of Materials Management, and in the minds of many people belongs no place else. I am not necessarily in that school personally, but I certainly agree that it is a function that is closely related to Materials.

I should like now to return to our basic original question -- "What is Materials Management?" Going back to what I said about just the word management, it is when we apply the professional approach of planning, organizing, integrating and measuring to the related functions or activities which go to make up Materials, that we end up with Materials Management. It is recognition of the entire and related cycle or process, not just promoting a Purchasing Agent or a Production Manager, or expanding the work scope of the Inventory Control Unit. Rather, it is the recognition, understanding or attitude that the various functional activities that go to make up Materials have a well-defined, over-all integrated role in the programming of materials and services involved in the manufacture

of a product; that each of these sub-functions is inter-related, and has a direct bearing on the others; and none of the actions of any of these elements can be completely divorced from the actions of the other work elements. Thus, Materials Management is the skillful and scientific application of resources, money and people, as related to the acquisition and use of materials in our business, to contribute effectively to the objective of the over-all business to realize a reasonable profit.

The general objective of a Materials operation is optimum business performance and greater profitability. But this can be had only with full understanding of the many variables that must be considered in setting up the plan of operation. Continuous availability of materials is a prerequisite for satisfying the market and assuring an even labor load. It is understandable, therefore, that an excess of materials in each work station prior to need would satisfy part of these requirements. The control of inventory investment, however, requires a minimum inventory, ordered to exact requirements with no provision for error; yet, on the other hand, in many cases economical order quantities dictate purchasing or manufacturing in more than the minimum quantity.

These relatively conflicting factors, together with considerations of change in lead time, changing factory loads, and fluctuating requirements, all make it necessary to review the varying factors constantly, having in mind both the short and intermediate range considerations. The ultimate goal is to achieve the optimum balance between outstanding customer service, in terms of delivery time and reliability of shipping schedules, minimum inventory investment, low cost of material, material availability, and work stability in the shop.

Establishment of plans to achieve the best combination among these variables and to integrate the work of people responsible for each of these activities is the task of Materials Management. Furthermore, since business conditions are almost constantly changing, the balance among these factors is never static and must be reviewed and revised regularly. A business is looking for both absolute dollars of profit and adequate return on investment. However organized, Materials Management holds the key to a very large share of the responsibility for business success in these terms.

In my mind, Materials Management is like the thumb on your hand. Remove the thumb, the effectiveness of the hand is drastically impaired. This corresponds to a business that fails to recognize the over-all materials work package regardless of how it is organized. Bandage the thumb, and the hand is only slightly impaired. This could be compared to fragmentizing Materials into separate functional areas, but with adequate recognition of their inter-relation and co-dependence.

Create a dynamic, aggressive, full-time Materials Management activity and you have a fully effective hand with four fingers and a highly valuable and useful thumb.

So far, my remarks might have sounded as though they were coming



from an empire builder, an individual with an ax to grind, a person who might wish to justify the continuation or establishment of a particular concept. I will be the first to admit that those who believe firmly and strongly in the integrated Materials Management concept do usually have a bias. But the sword is double-edged. If the Materials concept does not provide the desired or necessary service to a business operation, if it does not contribute in a major way to the profitability of the business -- in short, if it is not producing -- higher management will be quick to discern the problem and take appropriate action. In fact, this latter aspect is probably the strongest reason for advancing the Materials Management concept. By having the related functional activities grouped together into a single organization with one individual at the top to whom responsibility and accountability can be pegged, it is pretty difficult to envision there not being the appropriate measurement and accountability if things are not going correctly. On the other hand, when the various functional activities that go to make up Materials Management are fragmented, and appear on the organization charts of perhaps four or six different groups, it seems to me that it must be a pretty difficult and frustrating thing to get your arms around it. Was the request for material promptly furnished to Purchasing? Did Purchasing promptly process the order? Was the vendor properly expedited? Did the receiving and stockroom activities properly handle and account for the material? These are all examples of questions which the Materials Manager automatically and continually asks of himself and of his organization. His higher management, however, has only one individual to go to to find the answer.

An effective Materials Management organization must be a dynamic factor in any business enterprise. The Engineering organization generally finds it to be a thorn in their side, the Marketing organization similarly hears from Materials Management, and perhaps most importantly of all, Materials Management is forever asking for new Financial reports and for changes in the accounting system. My point is this: Materials Management is not merely a clerical process of posting stock balances or of placing purchase orders; rather, it is a source of important input to over-all business planning, complimenting and supporting the technical, marketing, manufacturing assembly, and financial inputs to achieve a truly balanced judgment.

Personally, I believe very strongly in the system of checks and balances, not only in government but also in industry. I submit that if a business firm does not recognize the importance of Materials Management, regardless of how they organize it, other viewpoints -- Financial, technical, marketing, or factory floor management -- will prevail to the detriment of a business. I do not mean to infer that the Materials influence should be over-riding to the exclusion of the other functions. I do strongly believe, however, that a business cannot afford to have the Materials influence itself excluded.

This, then, is my explanation of and defense for Materials Management. If we refer back to our sales billed statement, which indicated the percentage of our total operation represented by materials cost, we might ask ourselves the question, "Has industry achieved all possible



cost reductions in this area?" Has your company, has mine? Have we approached the effective use of management tools to control material cost as has been done in the case of direct labor? What is the effectiveness of industry in achieving real productivity of the people who accomplish the work of the Materials function? The quality control function has, for some time, been using much automatic test equipment. Test costs have come down. Complicated statistical analysis work has proved its value. How much truly unique and how many really advanced techniques have been employed to cut material costs? There is available a great deal of literature on the matter of scientific inventory control and Materials Management. I purposely shy away from making any detailed reference to it, since I quite frankly do not understand all of the mathematical calculations that are involved, but more importantly because I do not believe that that is the real aspect of the answer to what is Materials Management. As I have indicated several times, Materials Management is really an attitude or an approach towards the control of all related costs, whereas the application of these more sophisticated and newer tools is, in my opinion, the result of Materials Management.

If I am successful in causing most of you to question in your mind whether you think Materials Management is applicable to your own particular business I shall, of course, feel that I have been successful. Of perhaps greater importance, however, is that you also anticipate the direction your business is going in the years ahead. What is your competition doing? What effect will integrated data processing have on your organizational structure? What will a large-scale computer mean in terms of indirect and clerical people? What impact will further and more advanced mechanization of our factory operations have on those functional activities which we define as Materials work?

Many companies have backed into the integrated materials concept as the result of mechanization of paperwork routines. It was not adopted because they thought or perhaps ever considered the organization concept to be an advantage, but only because mechanization was impossible without it. I personally believe that many of the benefits that mechanization achieves could also be obtained merely by better procedurizing of our activities, simplifying our routines, and eliminating duplication of effort that always creeps into our operations. Thus, in our era, when we think of business developments such as mechanization, the systems concept, and simulation, the integrated materials concept is most compatible. In fact, a livewire Materials organization will probably be one of the strongest proponents for advanced business thinking, because once the functional activities are grouped together organizationally, the opportunities for improvement and cost reduction become much more apparent. If you have ever sat back and tried to project your thinking into the distant future or if you have had the opportunity to listen to some of the Questions Research type of people who, many times, are represented as being on Cloud 79, I am sure that you are familiar with the suggestions that are advanced concerning the drastic changes in organizational structure that can be expected. It is believed that the traditional functional approach will be eliminated. Along with the high-speed computers and memory devices, there are indications that such work as is considered office-

type work will be consolidated into a single organizational group, perhaps called "business planning and decision making." Although a very large portion of what is traditionally considered Materials work can be mechanized and automated, there is still a great deal of judgment process which I have difficulty envisioning being done by machines. Accordingly, in the far thinking aspect of this new type of organization, I see Materials-type of work as being fundamental to that activity. Let me hasten to add that I do not mean to imply that the Materials organization is going to grow into that activity. Quite the contrary, I believe it is just as likely that the traditional Materials organization can and will be eliminated as well as any other functional group in a business. My point is that the concept and application of Materials Management techniques is merely today's efforts in terms of working towards what will eventually be achieved in the majority of our businesses quite some years from now.

## MODERN DAY WORK SIMPLIFICATION AS APPLIED TO OFFICE PROCEDURES

Floyd W. Simerson\*

In this era of keen competition, the success of any organization depends a great deal on its ability to find and apply improvements throughout all areas of endeavor. Not only is it imperative that we streamline our work methods and procedures and make constant improvements in our products and services; it is also vitally essential that we make pronounced improvements in the "morale" of our people. High morale in an organization is a business asset -- something we can not afford to be without. It is a competitive advantage. High morale results in a higher productivity. Robert F. Goodwin of the Massachusetts Institute of Technology says:

Modern day Work Simplification has grown into far more than just a procedure for finding improved work methods procedures. The need for more effective use of improvements has led to a shift in concern from the search for new work methods to the human relations problems associated with implementing them. The emphasis is now being placed on the people involved and their attitude toward improvement. Methods of leadership, both executive and supervisory, take on major significance in modern Work Simplification. How we arrive at the preferred solution becomes the most important factor in its ultimate acceptance and effective use. The key to success lies in organized participation of all levels in the improvement process.

### Background

The roots of Work Simplification lie deep in motion study, as developed by Frank and Lillian Gilbreth. In the summer of 1936, Allan M. Mogenson conceived his great "trend-changing idea" that these principles of motion study could be structured into a program where every member of management, as well as hourly paid employees of an organization, might participate. Professor Erwin M. Scheil of the Massachusetts Institute of Technology suggested the term, "Work Simplification." And so it had its beginning. Mogenson has held conferences at Lake Placid, New York, every summer since that time. For the past generation, he along with David D. Porter of New York University and Robert F. Goodwin of the Massachusetts Institute of Technology as well as countless others in industry and business, has made constant refinements in this powerful tool of management.

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There are many negative concepts which regard Work Simplification as an efficiency drive, a speed-up program, a cost reduction scheme, a suggestion system, or an engineering-experting program. Actually, modern day Work Simplification represents none of these. Today we think of Work Simplification as a philosophy rather than as just a highly technical system or science. It is a way of thinking by which people work together to make things happen. Actually, it is built on the concept that "everyone accomplishes his personal objectives through others."

We have found that whenever human intelligence and energy are required to accomplish a task, the Work Simplification philosophy can apply. The common denominator between work performed in the factory, in a hospital, in the home, or in the office is people. It is a people-centered program. After all, people are the most important asset to the success of any organization.

When people are given an opportunity to have a say through group participation, their feeling of importance is skyrocketed. It is a form of recognition that we give them. We recognize that they, too, have ideas and that their ideas are really needed. As a group teams up to solve a problem or to develop an improved work method, their comments during the process can generally be summarized as follows:

#### Philosophy of Work Simplification

1. It's Fun to Participate in Group Activity: Work Simplification is based on the stipulation that "people do best the things they enjoy." Most people enjoy taking part in group activity. It makes them feel a part of the organization instead of just another faceless anonymous person lost in the crowd. If people are given the opportunity for expression together and if they derive enjoyment and satisfaction from it, their morale will be greatly improved. Morale is the way people feel. If they feel good about something, they will naturally work with more enthusiasm and accomplish more. One of the Royal Bank of Canada Letters states:

High morale generates thinking and planning; it stimulates initiative and enterprise; it is the most important ingredient of efficiency and only in its atmosphere are people inspired to seek the best.

To enjoy good human relations, we need to recognize the craving of people for recognition. They desire prestige. By encouraging participation, we develop in individuals a sense of importance. We attract them to us, arouse their interest in other people's ideas, stimulate their own thinking, and create a desire in them to bring all ideas to fruition.

2. It's Natural for Most People to Want to Improve: For the most part, people want to demonstrate their natural tendency to improve, but certain inhibitions are present. One of the main objectives of Work Simplification is to help remove psychological barriers from a

person's mind, such as fear of loss of his job, fear of ridicule, and fear that his ideas will not work or will be turned down by management. Emotional blocks tend to undermine our own creativity by self-discouragement. They become stumbling stones to our own progress. Participation in a good Work Simplification Program helps to remove these barriers and bring out the individual's desire to improve. This is accomplished by providing the opportunity to participate, along with judicious doses of encouragement and the appropriate pat on the back in recognition of good ideas.

3. We Learn from Others Through Teamwork: It has been demonstrated countless times that over 50 percent more ideas come from group thinking than from an individual thinking alone. One of our mottoes is, "No one of us is as smart as all of us." By taking part in a Work Simplification Program, one learns to recognize the ideas of others and discovers the real value of teamwork. The program also develops an open-minded attitude by demonstrating willingness to give other people's ideas a fair try.

By working as a team to accomplish an objective, we dramatize the value of teamwork throughout the organization. By arriving at improvements through the cooperative efforts of the entire group, each one lives and feels the impact of Work Simplification through participation. In the Royal Bank of Canada Letter we find:

Cooperation must be practiced by everyone, by those who are supervising as well as by those who are supervised. It is a voluntary thing, a two way street, a way of living in which people work together to get something done. A fair index of a man's efficiency in management is the degree of working together that exists in his unit of the factory or office.

When people become a TEAM, their capacity for production is astonishingly increased. Teamwork is achieved through voluntary effort pooled in a common cause.

4. A Definite Goal Helps to Motivate Action: Participation in group activity will accelerate a person's development and will help to develop a self-improvement habit. This becomes one of the main objectives of a modern Work Simplification Program -- to develop people. We try to encourage each participant to set a goal for himself with the company as well as in society. We encourage him to ask one question at the end of each day: "What have I accomplished today to bring my goals closer to reality?" We find that if an individual develops the habit of asking this question, he will soon take action to reach his aims. This action is working with other people to accomplish his personal objectives.
5. It's Not What We Do But the Way We Do It: A part of the Work Simplification technique, most naturally, is finding easier work methods and procedures as well as the elimination of unnecessary paperwork. The method of doing a task is a big factor of productivity, performance, and progress. To be successful with Work

Simplification means that we have to break loose from the traditional "habit pattern." It implies that we will have to concentrate on forming new habits by making changes for improvement. This is progress. People most naturally have to be sold on doing this. This can be accomplished by allotting time for the participants to work on Work Simplification projects. It has been demonstrated countless times that when any group, properly motivated and using the organized approach or the easier way, releases their potential brainpower on a problem, an improvement is inevitable. Work Simplification techniques instill in participants a sincere belief that "there is always an easier way." This they discover for themselves as they live Work Simplification through group participation.

One of the mottoes which we use is: "Work Smarter -- Not Harder; It's Easier."

6. It's Not What You Say but How You Say It: As a group meets as a team to solve problems, unrestricted channels of communications will be evident. Everyone has the opportunity to have a say. Tension will be missing. Fear and mistrust will be absent. They will be replaced by mutual confidence and respect.

Work Simplification today becomes one of the most effective channels in existence for communicating ideas.

#### Definition

WORK SIMPLIFICATION IS THE ORGANIZED APPLICATION OF COMMON SENSE AND A METHOD OF DRAWING ON THE KNOW-HOW OF ALL TO FIND AND APPLY IMPROVEMENTS AS WELL AS TO SOLVE PROBLEMS.

#### The Three Phases

Our program which we foster in our factories consists of three phases:

Phase I - Management Indoctrination: To administer a Work Simplification Program successfully, one must start at the top and then filter it down through the entire organization.

We hold a two-day appreciation program for the president and his staff. It is generally held away from the plant over a weekend. For these two days they live, breathe, and feel Work Simplification. Since the employees tend to reflect the attitudes of top Management, it is vital that top management enthusiastically participate and accept the program. For this reason, management must show the willingness to accept other people's ideas and to give them a fair try. This is so important that, if management does not honestly accept the program, there is little reason to go any further. When it does accept, it is time to forge ahead. In a nutshell, just how well top management accepts Work Simplification will determine how well others accept it. It is as simple as that.



Before starting the second phase, it is important to let the entire work force know what your objectives are and to solicit their cooperation. Usually representatives of labor are invited to participate in the first series -- the educational phase -- of management conferences.

Phase II - Education Phase: Several pilot groups are generally selected from the middle management team for the first series of conferences. These groups will include representatives from all departments, including the office and engineering.

The educational phase consists of a series of thirteen two-hour conferences which we conduct with the company's coordinator assisting. For the series of conferences, we furnish all the notes and supplemental materials. Two or three additional meetings are held for the office personnel. These meetings are devoted to paperwork charting.

The main objective of the pilot group is to evaluate the method and material with the purpose of modifying it to fit their own organization. The program now becomes their program, developed by them, rather than one which was imposed upon them. A steering committee is formed from the groups.

The next logical step in the educational phase is to expose other supervisors and key personnel to the modified program. These conferences are conducted by their own coordinator. As a rule, these have been more successful than the pilot series. The program format is continually improved to meet the needs as it is presented. The key to the success of a Work Simplification Program comes when the hourly paid employees are asked to participate. We encourage our factories to develop programs just for them, especially office personnel.

The main objectives of the educational program are to create a desire to improve, to create an open-minded friendly atmosphere, to learn the real value of teamwork, to develop better leadership abilities, and to learn how to use the tools of Work Simplification. One of the major problems encountered is a lack of follow-up by management to implement the proposals for improvement that result from the program. Provisions should be made to expedite all worthwhile ideas before even starting a program. An effective Work Simplification Program should yield 80% to 90% acceptance for all proposals. It is not wise to push too many people through the educational phase at one time. Some organizations place too much emphasis on the training phase and not enough on the application or follow-up. When this is done, the program becomes a glorified training program and will soon lose its momentum and fall by the wayside.

A good Work Simplification Program, if it is to be effective and yield continuous results, must have the mechanism for harnessing the enthusiasm and newly formed skills of the participants.



Phase III - Application or Follow-Up: In most cases, as a series of conferences unfolds, the graduates become members of a problem-solving team. The team will generally consist of four to five members. The team usually meets once a week to work on Work Simplification projects. When a graduate is assigned to a team, honest-to-goodness Work Simplification will begin in earnest for him. It becomes part of his job.

Since we know the subject to be an organized approach, may I present the seven steps to improvement which may be a guide to thinking:

#### The Seven-Step Pattern

Step 1 - Select a Job or Situation: Actually, all jobs within the office area need improving, but some jobs should have priority over others. Jobs which entail a large amount of paperwork, jobs where there is an exorbitant amount of people involved, bottleneck jobs, jobs where there is an excessive amount of turnover, or jobs which are repetitive in nature are all good prospects. Usually an effort to improve work is justified because of apparent problems involved in the work.

In 1910, based on the census figures, the ratio of office workers to productive workers was 1 to 10; today, the ratio is greater than 1 to 4. About 25 per cent of the cost of the products you buy or about sixty billions of dollars per year is spent on so-called controls. This involves the internal controls within the organization as well as government, state and local controls. With this situation at hand, it is just as important to make continuous improvements in the office area as it is in the production areas if your company wants to survive this fast-moving competitive era.

Not only should we be concerned with job methods and procedures, but other situations, such as problems in morale, housekeeping, safety, and so forth, can be selected for solving. When a situation exists, it is necessary to define the apparent problem so that the group fully understands it. A problem well defined is half solved.

Step 2 - Consult All Those Concerned: The second step in our organized pattern to improvement is to consult all those concerned. Since Work Simplification is built on the concept that everyone accomplishes his personal objective through others it is, therefore, in our own interest to recognize ideas from others as well as our own.

Those concerned include the person or people doing the job, the supervisor, engineering and any other department that will be affected by the change. By consulting with those concerned from the very beginning and by making them a part of any change that will eventually take place, the task of selling the change will be practically diminished.

The consultative approach to Work Simplification is a philosophy.

It is a state of mind in an organization which allows everyone to participate in solving problems as well as developing easier and better ways of doing work, thus increasing productivity and improving morale. Using the consultative approach, we recognize the ability a person has through making him feel that he is important and an important member of the team, and that his ideas are really needed. This promotes teamwork and cooperation throughout the total organization.

Step 3 - Get All the Facts -- Use the Tools: The intelligent approach to improvement makes use of all the facts already available, as well as those that can be procured with extra effort. Facts concerning frequency of the task, procedure write-ups, time standards, material lists, schedules, job descriptions, layouts, and so forth, are the facts that are already available.

Facts that can be procured with extra effort are obtained by applying the tools of Work Simplification. There are many tools at our disposal, such as the flow diagram, the flow process chart, the man-machine chart, the operator right and left hand chart, motion economy checklist, paperwork checklist, and the functional flow chart. Other tools of management can also be applied, such as work sampling, organized conference leadership, brainstorming, work management, and so forth. The type of job or situation will depend on the tool(s) used to get all the facts.

FACTS are stronger than arguments  
More impressive than reasoning  
More dependable than opinion  
They silence dispute  
Supercede prediction  
And close the case

Step 4 - Challenge Every Detail: This is the step where creative teamwork pays off. First, the job or situation itself is questioned. The ultimate goal is complete elimination of the job or situation. This is the "one best way." If the job is necessary, then we use an organized step-by-step procedure. Each detail, each part, each portion of the project under consideration is put on the stand, so to speak. The creative potential of those concerned is brought to bear on each segment in descending order of importance.

Constant questioning followed by the big three-letter word, WHY, is in itself a technique of challenging.

I keep six honest serving men  
They taught me all I know  
Their names are What and Why  
And When and How  
And Where and Who. -- Rudyard Kipling

The technique of "brainstorming" in a green-light atmosphere is a tool of Work Simplification that will bring to light many possible solutions.

Step 5 - Develop the Preferred Solution: This is the evaluation step. Those concerned are faced with the task of reviewing the alternatives in the light of practical application under existing conditions. Consulting with those concerned at this stage is virtually a must. Consideration must be made from both the economic and the human side. So far as possible, alternate proposals should be tried out and evaluated.

Actually, there are three types of improvement:

- a. The first type is an improvement that can be made with no investment. This is the real challenge to Work Simplification. Changes of this nature should be installed as soon as possible and then proceed to make further improvements which may fall in the second or third category.
- b. The second type of improvement is one that can be made with a small investment or the conservative improvement. In most organizations the department supervisor is authorized to approve such an expenditure (generally under \$300.00). Most of the proposals will fall in this category.
- c. The third type of improvement is known as the radical one. This type of improvement requires higher management approval as a capital investment is generally required to make the change. Engineering should definitely be involved in this category.

Often times a project will go through all three stages of improvement. You then improve the improved method.

The climate and atmosphere of eventual acceptance is built during the process of arriving at the preferred solution.

Step 6 - Sell -- Install the Improvements: The ultimate goal of the first five steps is effective application of the improvement. If a good job of consulting has been practiced, the job of selling becomes easier. No change can be considered an improvement unless the people who are involved in using it think so. It is far better to have a procedure enthusiastically accepted and utilized, even though we may know it falls short of the ultimate solution, than to have the ideal procedure forced unwillingly upon the organization, then have it resented and resisted, and wind up far below expectations.

Step 7 - Follow Through -- Give Recognition: All improvements that are made should be followed up so as to make sure that everyone understands the new procedure. Also, we should check on the results, to make sure that they are meeting our expectations. Herb Goodwin says:

The satisfaction and fun of participation in improvement culminates in the recognition given for a job well done.

Success in improvement is contagious, like the enthusiasm of a winning athletic team.

A well organized Work Simplification Program must include an organized effective recognition program, if you want to keep it awake. There are numerous ways and means of giving recognition to those who contribute.

In our programs, we will generally set up a point rating sheet at each factory, which is used to evaluate the proposals. Several factors with varying degrees are used, such as; number of proposals submitted, number accepted, use of the organized approach, evidence of consulting all those concerned, net first year savings, floor space saved, quality improved, and attendance at team meetings. Contests are held between the teams. After the total accumulated points reach the goal set, awards (other than monetary) are given to the members of the winning teams. A recognition banquet is held for all participants as well as others who may have contributed feasible ideas through the consultative approach.

Special plaques are displayed along with photographs giving special recognition to the "Man of the Month" and the "Team of the Month." News items appear in both the local newspaper and the company's paper. Motion pictures are made showing the before and after methods, which give special recognition both to the person doing the job and to those who contributed the ideas. The films are shown to the employees as well as to members of his family and to his friends.

#### Resistance to Change

Modern-day Work Simplification stresses the importance of taking time in creating acceptance to change, rather than attempting to overcome resistance to it. This is accomplished by the consultative approach through participation. Professor Leo Moore of the Massachusetts Institute of Technology said:

Contrary to the common management assumption, it can be demonstrated that people really like to change and do not mind criticism if they make the changes and criticisms themselves.

The traffic signal with its red and green light has become the universal symbol of Work Simplification. The red light represents the closed-mind attitude. It is the STOP sign on the road to progress. It stifles creativity. To succeed in Work Simplification, we must bury this "It can't be done" attitude. Mørgenson said:

The greatest obstacle in simplifying work has not been created by technical difficulties, but by the mental attitude of people who feel they are already using the best possible method.

Most people normally develop a habit way of doing things. In fact, they

literally become hypnotized with a given method. They may like things as they are simply because it is too much trouble to change. Change makes it necessary to think and to concentrate on forming new habits. However, the majority of people with the proper motivation through Work Simplification will come forward with good, sound ideas for improvement which most naturally implies that a change is necessary to implement the new idea. Professor Schell of Massachusetts Institute of Technology has said, "You can have change without improvement, but you cannot have improvement without change."

The green light dramatizes the cooperative, friendly spirit of teamwork and is the symbol of the open mind. The open mind represents the willingness to accept other people's ideas and to give them a fair try. The green light attitude must be instilled in the minds of all employees if you are to realize the full benefits of Work Simplification.

### Conclusion

Work Simplification is not a panacea for all managerial problems, nor is it a miracle drug or a gimmick to cure all of our ills. In the proper hands, however, it is a proven, invaluable tool to help solve many problems and is within the reach of all within the entire organization. It is a method of developing the creative genius of all individuals. As Vlek Short says, "It can be compared with a bank account. You have to put some money in before you can draw on the account."

In reality, we can have only what we produce. To have more, we must produce more. To have the leisure to enjoy it, we must find ways and means to produce in less time, with less effort. This is the way to plenty.

## A SURVEY OF INSTITUTIONS IN THE MILWAUKEE, WISCONSIN AREA

Norman Kaye and Harvey Hohl\*

Marquette University's Center for Business Services has been actively engaged in a descriptive type survey during the past year. The Center, in conjunction with Institutions Magazine, attempted to provide national figures on several phases of institutions operations. The following discussion provides some important findings of this survey. At the same time, the technique of the survey is presented to allow the reader to judge the objectivity and reliability of the results.

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### Problem and Purpose of the Study

Institutions form a sizable market for a number of economic activities. Manufacturers and suppliers of this market had long needed facts to substantiate their ideas of the extent of the market they were serving. If the size of institutions were once established factually, those serving the market could more intelligently plan their own operations. The suppliers and manufacturers could determine such vital information as their share of the market, the potential volume of the market, and the allocation of their own resources in advertising, promotion, and so forth. Realizing the culpable bias inherent in the interests of Institutions Magazine, this periodical engaged the Center for Business Services to provide facts describing the institutions market.

The problem confronting the Center was the determination of the size of institutions. It was soon found that adequate and reliable measures were lacking and that these would have to be developed.

### Available Measures

The obvious approach to solving the problem of measuring the size of the institutions market was to rely on data already available. Unfortunately, such published data were conspicuous only by their absence. Some national statistics, describing isolated parts of an institutions grouping, had been collected. These statistics were largely confined to such broad measures as the number of schools or hospitals in the United States. Other statistics were no more than estimates. The key problem in the search for published data in the area consisted of a lack of

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\* Dr. Kaye is Associate Professor of General Business, and served as Director of this study; Mr. Hohl is Acting Director of the Center for Business Services. They are both members of the faculty of the College of Business Administration, Marquette University.



homogeneity in definitions of an over-all concept of just what "institutions" as a group comprise. Before the actual field investigation could be started in August of 1960, therefore, certain landmarks of the study were established.

The most important step consisted of defining "institutions." The working formula devised turned out to be that an "institution" is any organization engaged in mass feeding and/or mass housing. This guide eventually resolved into a more practical identification. In the final analysis, "institutions" were defined as restaurants, hotels, motels, clubs, hospitals, health and welfare agencies, in-plant feeding facilities, and schools.

The definition of size was the next task. It was immediately apparent that the attempt to measure any and all aspects of the size of institutions was too ambitious, if not impossible. Here, again, a preliminary working guide was established. The size of institutions was interpreted from the viewpoint primarily of maintenance, and secondarily of equipment use. Eventually, the definition of size became that of square footage of buildings, and amount of furniture and cleaning equipment used.

#### Limitations and Delimitations

The study's first delimitation was geographic. Cost and time considerations obviously played a major role in restricting the area scope within which the data would be collected. Although convenience highly influenced the choice of Milwaukee County as the source area, considerable rationale also validated this decision.

Milwaukee County was checked for representativeness using the estimates already discovered concerning broad counts on parts of the institution definition. Milwaukee agreed favorably with the United States percentage breakdowns of restaurants, hotels, and hospitals. These three classifications comprise a considerable segment of all institutions. In addition, the Center provided information attesting to the projection of Milwaukee County figures to a national basis. Sales Management's Survey of Buying Power of July, 1960, showed a remarkable and pertinent stability of Milwaukee County's relation to the United States in three areas:

1. Population	.5954%
2. Retail Sales	.6458%
3. Buying Income	.6700%

The closeness of these percentage relationships was deemed sufficient evidence to validate their use in blowing up Milwaukee County institution statistics to national levels. The actual figure used to translate County results to national measures was .6478%. This percentage is a weighted average of the three percentages shown above. Sales Management called this percentage a Buying Power Index.

The last delimitation imposed on the field investigation, before its initiation, was the decision to sample. Time and cost militated against



a complete Milwaukee County institutions census. The decision to use a random sample was favorable, however, for more important reasons than the "hour and dollar" restriction. Contact with a smaller number of institutions allowed enlargement of the items of information desired. The sampling technique also allowed greater emphasis on accuracy of information from each institution. Lastly, the randomness of the sample provided a means of judging reliability of the sample. Any sampling error could be projected to a national level, so that the user of the data would know precisely the effect of the sampling delimitation.

#### Nature and Sources of Data

The data collected for this study included measurements, observations, opinions, and records. The major part of this data emanated from interview and observation questionnaire forms. Some of the opinions and facts were relayed by telephone. The segments of the questionnaires requiring data from records were filled in by the respondent personally, but in all cases these forms were called for by the interviewer. In a very few cases, partial responses were returned by mail. Some of the school data came from published sources, partly supplied by the schools themselves.

The measurements consisted of outside building dimensions, floor space, wall dimensions and ceiling dimensions. Each interviewer was trained to pace off room sizes. The paces were converted to feet for each individual by several tests with a measured distance. Thereafter, each interviewer could change her number of steps to feet. Wall heights were estimated by measuring the height of each interviewer's reach span. Ceiling measurements were assumed to coincide with floor dimensions. If any obvious discrepancy existed, the interviewer would make a compensating adjustment from the floor size. These adjustments were expected to be rare. Outside building dimensions came primarily from resident personnel. When that source failed, estimates were made from the familiarity of the interviewer with a 40' by 120' lot as a standard. The number of stories in each building became a mere counting measure.

Observation played an important role in such parts of the study as identifying floor, wall, and ceiling coverings, identifying and counting furniture and maintenance equipment, and classifying the types of rooms in any given institution. Again, each interviewer was trained to do this job through oral instructions, pictures, samples, and finally by a supervised trial run of actual institutions.

Opinions stemmed largely from respondents' replies to questions regarding policy or nature of the operation. For the most part, opinions might be classified as the respondents' intelligent estimates of data not readily measured or observed by the interviewer.

Telephone and respondent fill-ins were used sparingly. Telephone contacts were used chiefly to fill in missing data or to explain discrepancies. Respondents were allowed to fill in questionnaire forms only when the interviewee could provide no information and requested more time to consult records.

Interviewers were assigned to institutions arbitrarily with one notable exception. The more highly experienced and capable interviewer received the more complex institutions. As the survey progressed, this pattern also applied to the interviewers showing the most ability. The more capable an interviewer showed herself to be, the more complex were her following assigned institutions. All the precautions in training, assignment and call-backs served to offset the inaccuracies that were inevitable once the program was underway.

### Questionnaire Development

The first major step in conducting the survey centered on preparing an effective questionnaire to concentrate on the following general areas:

1. Physical size -- interior and exterior
2. Maintenance products used
3. Maintenance products purchase policies
4. Floor, wall, and ceiling covering
5. Inventory of furniture

The decision underlying the type, number, and complexity of the questions to cover these areas determined the entire course of the survey. Simply stated, the choice rested between designing "a few, easily-answered questions," or "many, detailed questions." The former would elicit more favorable response and more accurate answers; by shortening the time spent at each institution, this alternative would also make possible a larger sample and more reliable results. The latter would have the advantage of producing a multiplicity of detailed information, and hence a better description of the sample. In an area where little or no information about market size was known, any small fact would provide some indication of what the survey set out to do.

Finally, a compromise was reached. The questionnaire developed a series of all-inclusive questions exploiting the full potential of information available from each institution, covering the five major areas noted above. It was recognized that much of the breakdown might be insignificant. At the same time, the basic information would still be available and, it was hoped, as reliable as if the complex detail had been omitted. The questionnaire was devised, therefore, in considerable detail, with the realization that only the more simple, pertinent data might be reliable, but with the hope that some of the more refined measures would also be significant. The questions finally selected were then tested in the Chicago and Milwaukee areas, and the final questionnaire forms were adopted.

### The Universe and the Sample

Within the chosen geographic universe of Milwaukee County, lists were secured for each type of institution to be surveyed. The types of lists secured were for clubs, health and welfare agencies, hotels and motels, in-plant feeding cafeterias, restaurants, and schools. Most of the lists were taken from a 1958 confidential report showing number of employees per establishment. A special list, again confidential, was

provided for in-plant feeding. The Milwaukee Association of Commerce up-dated the working list on motels, since very recent developments had occurred in this type of institution in the County. An Official School Directory for Wisconsin, 1958-1959, conveniently provided the list of the County's schools.

The employment data of the basic list was especially valuable in the area of restaurants. A complete listing of restaurants, provided by the Wisconsin Restaurant Association, exceeded 1,800. Many of these, however, were small taverns or hot sandwich places not particularly relevant to the purposes of the survey. The universe was therefore limited to 704 establishments by restriction of the size of restaurants to those reporting to the Wisconsin State Employment Association at least one person outside of the "mama-papa" employment. This employment characteristic provided the basis for surveying larger type establishments.

The universe lists finally used contained 919 institutions, not including schools. They were composed of 704 restaurants, 75 hotels-motels-clubs, 85 health and welfare agencies, and 55 in-plant feeding establishments.

The sample, including schools, aimed at an initial ideal of 500 total institutions. In addition, a rule of thumb was employed to meet a minimum of 30 in any one type of institution. These criteria were established to provide an acceptable sampling error in the final results. Carefully controlled random selection of a sample from this universe assured measurable reliability. Selection from each type of institution in Milwaukee County added representativeness to the study.

The actual randomness was accomplished by selecting a systematic random sample. For restaurants, each seventh name was chosen;\* for the other types, every other name was chosen. The starting point in the lists was determined with the selection of a slip of paper from a group numbered one to seven for restaurants, and the flip of a coin for the others. It was found that almost 50 per cent of the listed restaurants had gone out of business; another random sample of every seventh name was, therefore, taken to meet the ideal numerical requirements.

Although stratification of the design served to add representativeness to the sample, the breakdown very often fell short of the minimum of 30 per stratum. This served to render many parts of the results too small to contribute significant results on a national basis. Intention here, however, was analogous to that of the questionnaire construction. The survey was designed to "hit the corners," realizing that only the total or large strata of the study would be reliable, but hoping that some bonus information might be derived from the minute detail. Eventually, the sampling plan resolved into groupings of small strata results, and a specially designed plan for schools.

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\* The homogeneity of the restaurant sample allowed a curtailment of this stratum. A sample of 100 seemed to be sufficient, and a total ideal sample of 300 was acceptable.

The sample for the schools was selected on a district basis. The Milwaukee City School System was selected since it predominated the County area. Of the sixteen other districts, seven were chosen at random for outlying areas. The data were collected in the same manner as from other institutions, except that only district offices, not individual schools, were contacted.

The final sampling plan resulted in the following picture:

<u>Grouping</u>	<u>Universe</u>	<u>Ideal</u>	<u>Actual Sample</u>
Restaurants	704	100*	75
Health and Welfare	85	37	34
Hotels-Motels-Clubs	75	33	34
In-Plant Cafeterias	55	30	21
	919	200	164
Schools	241	100	102
TOTALS	1,160	300*	266

The appendix contains a list of all the institutions which cooperated with Marquette University by giving the necessary facts and time to make this study possible.

#### Procedure

Each selected institution received the following individually addressed letter several days before an appointment was scheduled:

You have been selected as one of the typical outstanding institutions in Milwaukee County.

Everyone recognizes the community service you have contributed to the Milwaukee area. However, your role in the economic welfare of the society has been somewhat neglected. We at Marquette University are considering your part in creating employment, payrolls, building activity, and other economic supports to Milwaukee County.

Institutions Magazine is also vitally interested in all operations of your kind and is cooperating with us in this survey. The survey is purposely limited to a small part of your operation, housekeeping and decor, to serve as a pilot for other studies. Your cooperation alone will determine the success of this first step.

In a few days we will telephone to make an appointment with you for our interviewer. The interviewer will take a physical description of your premises and furnishings. Please make the appointment time at your convenience so that the interviewer may assist you to fill in the enclosed questionnaire.

\* See footnote, page 33.

So that you may feel free to answer all questions without reserve, all individual replies will be held in strict confidence by the Marquette University Research Bureau.

Four interviewers were specifically trained to collect the required data at the appointed day or evening hours. The refusal rate was low because the institutional personnel were sympathetic with Marquette, and were aware that this desired information was presently unavailable. Some difficulties arose which were attributed either to poor records, inaccessibility of the manager, or the length of time needed to obtain the detailed information. For example, it took one interviewer an entire week to complete the interviewing job for only one institution. This is understandable as the interviewer actually had to count furniture and equipment, examine each room, and consult with either the owner or manager. Occasionally the telephone was used to check on discrepancies or to obtain additional data, but only if an interview was not possible after several call-backs. Constant editing of completed questionnaires, coupled with close supervision of the interviewers, provided complete and reliable information.

The conversion of the data into punched IBM cards proved to be more of a challenge than the collection phase. Codes were designed so that even the minute details would not be lost. As an illustration, over sixty codes had to be established to classify only one small item, the brands of detergents used by Milwaukee institutions. Although most of the punched data would only be used for descriptive purposes in the immediate study, it is hoped that future efforts may be possible to analyze the local market further.

The limits of time and money determined that the data should be processed by the IBM 650 Computer so as to summarize the facts and compute their reliability. If the results were found significant, an additional program could then be designed to attempt a projection of the findings to the national market.

The initial computing programs were time consuming as they produced over two hundred tables. All of the information was summarized both by the type of institution and by its geographic location.

These tables were identical in construction so that the summary data were easily accessible. The first column provided the total number of items counted. In the second column were the number of institutions that provided the items enumerated. The number of items was then divided by the number of institutions to produce the arithmetic mean, or average, for the third column. The reliability of the average was indicated in the fourth column. This reliability measure, when added to or subtracted from the average, determines the interval in which the true average will lie 95 percent of the time.

The summary results from the first page of the questionnaire are reproduced in the following table to illustrate this method of analysis.

TABLE I  
GENERAL INFORMATION FOR THE ENTIRE SAMPLE

	Sample Total	Number Responding	Average	Sampling Error
Number of buildings	329	151	2.2	1.2
Number of people fed daily	61,235	137	447.0	114.4
Number of people housed daily	6,374	46	138.6	57.6
Capacity in feeding	35,636	137	260.1	83.7
Capacity in housing	8,738	54	161.8	57.9
Days per week operated	1,074	167	6.4	.12
Hours per day operated	2,570	167	15.4	1.3
Area in square feet	1,240,674	148	8,382.9	4,581.2
Number of stories	312	146	2.1	.29
Age in years	4,826	144	33.5	4.2
Frequency of remodeling	280	40	7.0	1.9
Book value (\$ thousands)	180,056	56	3,215	5,296
Monthly	11,055	30	368.5	103.9
Amount of lease	1,965	5	393.0	200.0
Years for the lease	158	21	7.5	1.8

The masses of descriptive material in all the tables were checked for reliability. Each result was judged as being either significant, questionable, or insignificant. This objective interpretation determined what data could be considered adequate for the next phase of statistical projection.

It was generally concluded that the results of many individual breakdowns were insignificant. Descriptive items summarized by categories, however, were significant if not analyzed by type of institution or by location. Therefore, this information was again fed into the Computer and nationally projected figures were obtained.

There were two primary reasons that most of the results were not significant. First, the sample size was too small and often only a few institutions responded. To illustrate, fifteen hotels were contacted and only seven provided the interviewers with reliable information. Second, there was too much variability in the items being described. This can be demonstrated by again noting that over sixty detergent brands were used by the institutions surveyed.

Mention should be made why the school data were not included when the final Computer program was set up.

The school segment of the institutions survey contained several unique problems. The school districts in Milwaukee County have been in a state of flux since 1950. New buildings and facilities have been continually added during the last decade, and this changing population remains in the same state today. These factors contributed to making a list of all schools in Milwaukee County a doubtful compilation.



To add significance to any sample chosen from a constantly changing universe, several considerations were used in defining the school population. The public school system comprises the largest segment of buildings in the County. This system does not differ substantially from the denominational or private schools in building and feeding characteristics. Information about the systems is available from a central source. Although institutions of higher learning would add a housing element to the school segment, there are only five such institutions in Milwaukee. A survey of five would be representative of nothing other than the five schools themselves. The universe for the school section of the survey was therefore defined as the Public School System in Milwaukee County. As of August 29, 1960, the system consisted of the Milwaukee City School District and fifteen outlying districts. This universe contained 236 elementary and high schools, 140 of which were in the City proper. The survey used the City system plus seven of the outlying districts chosen at random in its sample. Two institutions of higher learning, one Catholic and one Lutheran High School, were also selected to provide spot information and verification of the considerations leading to the description of the school universe.

Statistically, the results were poor because of the variability in the data collected and the small number of respondents. A supplemental report was made and the school data withdrawn from the pool of information collected. The lack of educational figures detracts from the over-all results, some of which are summarized in the following tables. Nevertheless, the selected items shown here present a better measure of the size of the institution market without the school data.

Some of the summary findings are given below to indicate over-all tabulations which are arranged according to the pages of the questionnaire.

TABLE II  
MAINTENANCE EQUIPMENT AND PRODUCTS  
FOR THE ENTIRE SAMPLE

<u>Type</u>	<u>Total Amount Spent by Institutions Contacted</u>	<u>Number of Brands Used</u>
Floor Machines	\$ 425,260	15
Auto Scrubbers	297,892	2
Vacuum Type Sweepers	36,595	17
Carpet Sweepers	15,700	5
Floor Cleaners	2,080,995	41
Floor Waxes	1,294,395	29
Floor Sealers	92,005	9
Molds' Carts	517,280	2
Mops	1,266,464	20
Brooms	519,755	11
Detergents	2,946,268	61

TABLE III

## PURCHASING POLICIES FOR THE ENTIRE SAMPLE

<u>Person Making Purchasing Decision</u>	<u>Building Interiors</u>	<u>Furniture &amp; Fixtures</u>	<u>Main- tenance Machines</u>	<u>Main- tenance Equip't</u>	<u>Main- tenance Products</u>
Owner	115	72	48	62	62
President	7	7	7	4	3
Vice President	2	3	1	2	2
Gen'l Manager	19	25	20	25	25
Exec. Housekpr.	3	2	11	17	14
Maint. Supt.	9	5	11	16	15
Purchasing Agent	4	4	6	10	10
Dept. Manager	0	1	1	1	3
Food Service Mgr.	0	1	1	4	4
Interior Decorator	1	1	0	0	0
Exec. Committee	4	4	3	5	3
Food Service Empl.	32	28	21	12	12
Interested Parties	4	3	3	2	2
Corporation	1	1	1	1	1

TABLE IV

## PRIMARY SOURCE OF SUPPLY

<u>Supplier</u>	<u>Building Interiors</u>	<u>Furniture &amp; Fixtures</u>	<u>Main- tenance Machines</u>	<u>Main- tenance Equip't</u>	<u>Main- tenance Products</u>
Sanitary Sup. Dlr.	4	2	22	53	62
Paper Jobber	19	1	1	4	5
Wagon Jobber	17	0	2	12	12
Mfr's Agent	9	17	28	12	15
Mfr's own Salesman	6	8	31	11	20
Contract Dept.	58	17	2	1	1
Retail Store	12	14	10	22	10
Interior Designer	12	3	0	2	1
Restaurant Supply	12	57	12	32	21
Made to Order	3	8	1	1	0
Food Service Eqpt. Dealer	1	2	0	0	0
Firm	17	1	0	0	1
Trades	15	23	6	7	4

TABLE V  
PERCENTAGE OF MILWAUKEE INSTITUTIONS  
USING VARIOUS COVERINGS  
ON FLOORS, WALLS, AND CEILINGS

<u>Floors</u>	<u>Restaurants</u>	<u>Hotels, Motels, and Clubs</u>	<u>Hospitals and Welfare Institutions</u>	<u>In-Plant Feeding</u>	<u>Total</u>
Carpeting	20	51	8	10	19
Concrete	6	3	17	7	10
Terraza	16	8	11	19	13
Quarry Tile	1	3	3	5	3
Rugs	--	4	3	5	3
Resilient Tile	44	18	42	41	38
<u>Walls</u>					
Drapery	5	6	1	7	1
Paint	29	54	75	29	51
Wallpaper	14	9	3	2	7
Wood	17	10	4	11	9
<u>Ceilings</u>					
Accoustical	37	23	23	46	29
Paint	43	74	54	33	54

TABLE VI  
PROJECTION OF NATIONAL STATISTICS  
FROM MILWAUKEE COUNTY SAMPLE

	<u>Number of Institutions in Sample</u>	<u>Average Number of Items</u>	<u>National Pro- jected Total (000)</u>	<u>Standard Error of Projection (000)</u>
Seating	135	309	43,877	16,890
Tables	124	108	15,374	6,600
Booths	67	19	2,721	506
Cabinets	46	78	11,069	8,587
Desks	58	31	4,395	3,415
Beds	41	175	24,757	19,251
Floors (sq. ft.)	144	6,131	869,826	309,643
Walls " "	143	7,935	1,125,677	276,531
Ceilings " "	143	5,916	839,324	306,592

The findings shown here are only indicative of the potential measure of the size of the institutions market available from the collected mass of data. All the information is stored on punch cards and is readily accessible. The questionnaire is a guide to the many minute classifications the survey has obtained. For example, the fourth page of the questionnaire could provide a measure of the square feet of ceramic tile floor covering in hotel lobbies. Although this bit of information, and innumerable facts like this, can be extracted from the master compilation, the question of reliability always hovers over the significance of these many cross-classifications.

Using this survey as an indicator, however, the precise measure of any cross-classification deemed to be important could easily be determined in future surveys. Measures of food consumed, services offered, cost and prices of services are all areas that could be exploited more expeditiously within the framework of this pilot study. Knowledge of the variability of the small classifications also makes possible a more reliable study of each individual detail.

In short, the institutions survey has provided a reliable point of reference in an area that suffered from a dearth of factual information. Furthermore, the survey established a store of experience to improve future studies in this area. The experience attained could also be shared with other research agencies throughout the United States to conduct a more encompassing study.

Inquiries regarding more specific information about results or methods used are welcome. Address inquiries to the Director of the Center for Business Services, College of Business Administration, Marquette University, Milwaukee 3, Wisconsin.

## APPENDIX

### THE QUESTIONNAIRE

#### INSTITUTION SURVEY

General Information: (For Institutions with more than one building, prepare a separate schedule #5 for each building.)

1. Name of Institution \_\_\_\_\_
2. Address \_\_\_\_\_
3. Number of Buildings \_\_\_\_\_
4. Maintenance Employees hours per week \_\_\_\_\_
5. Size of Individual Building Operation
  - a. Number of persons served daily in feeding \_\_\_\_\_, in housing \_\_\_\_\_  
Capacity of the building in feeding \_\_\_\_\_, in housing \_\_\_\_\_.
  - b. Time Operated: Days per week \_\_\_\_\_, Hours per day \_\_\_\_\_.
  - c. Building: Dimensions: \_\_\_\_\_ ft. x \_\_\_\_\_ ft.  
Number of stories: \_\_\_\_\_  
Age: \_\_\_\_\_ years  
Years remodeled: \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_.  
Value: If owned --- Book value \$ \_\_\_\_\_  
If rented -- Monthly rent \$ \_\_\_\_\_  
If leased -- \$ \_\_\_\_\_ for \_\_\_\_\_ (s).

## PURCHASING POLICIES

Purchase Decision Made by:	Building Interiors (floors, walls, ceilings, etc.)	Furniture and Fixtures (chairs, tables, sofas, etc.)	Maintenance Machines (vacuums, scrubbers, etc.)	Maintenance Equipment (brooms, mops, pails, etc.)	Maintenance Products (soap, wax, detergents, etc.)
Owner					
President					
Vice President					
General Manager					
Executive Housekeeper					
Maintenance Superintendent					
Purchasing Agent					
Department Manager					
Food Service Manager					
Interior Decorator					

## Sources of Supply

Sanitary Supply Dealer					
Paper Jobber					
Wagon Jobber					
Manufacturer's Agent					
Manufacturer's own					
Salesman					
Contract Department					
Retail Store					
Interior Designer					
Restaurant Supply House					
Made to Order					
Food Service Equipment dealer					

## MAINTENANCE EQUIPMENT AND PRODUCTS

Type of Equipment:	Number of Pieces	Predominant Manufacturer	Dollar Value Purchased Last Year
Floor Vacuums			
Floor Machines, Polishers-Buffers			
Auto Scrubbers			
Power Sweepers			
Vacuum-type Sweepers (cleaners)			
Carpet Sweepers			
Type of Products:	Amount Purchased Last Year	Brands Favored	Dollar Value Purchased Last Year
Floor Cleaners			
Floor Waxes			
Resin Emulsions			
Floor Sealers			
Other Products:			
Maid's Carts			
Mops			
Brooms			
Detergents - housekeeping			



Area Classifications		Floor Covering		Wall Covering		Ceiling Covering	
Adm/Interactive	Public	Carpeting		Architectural		Acoustical	
Feeding	Halls	Hard Surface		Acoustic Partition		Bams	
Dining Room	Lobby	Ceramic tile		Surface		Paint	
Bar	Lounge	Concrete		Drapery		Wallpaper	
Cocktail Lounge	Meeting	Marble		Fabric		Other	
Coffee Shop	Sleeping	Terraza		Mural			
Private Dining	Single	Quarry tile		Metal			
Cafeteria	Double	Other		Paint			
Wash Rooms	Suite	Resilient		Plastic			
Other (Specify)		Sheeting		Tile			
		Tile		Wallpaper			
		Rugs		Wood			
		Wood		Windows			
		Other		Blinds			
				Drapery			
				Shades			
				Other			
Area		Sq. Ft.	Type	Sq. Ft.	Type	Sq. Ft.	Type

	<u>Booths, etc.</u>	<u>Cabinets (and dressers)</u>	<u>Desks</u>	<u>Beds</u>
	Booths	Convertible	Convertible	Convertible
	Stools, fixed	Fixed	Fixed	Fixed
	Counters, eating	Movable	Movable	Movable
	Banquettes	- - - - -	- - - - -	- - - - -
	M Metal	M Metal	M Metal	M Metal
	P Plastic	P Plastic	P Plastic	P Plastic
	W Wood	W Wood	W Wood	W Wood
	L Leather	L Leather	L Leather	L Leather
	V Vinyl	V Vinyl	V Vinyl	V Vinyl
	F Fabric	F Fabric	F Fabric	F Fabric
Area	No   Type   Fin	No   Type   Fin	No   Type   Fin	No   Type   Fin

[illegible]

MILWAUKEE INSTITUTIONS  
WHICH COOPERATED IN THE SURVEY

RESTAURANTS

Alice's  
Amber Manor  
Antonlo's Bar and Restaurant  
Billings Dining Room  
Blue Dahlia Supper Club  
Brumder's  
Caswell Coffee Shop (Whitey's)  
Corned Beef Corner  
Crest  
De Marins  
Dino's  
Dutch's Sukiyaki House  
Eat Time  
Fleur de Lys  
Francesca's Restaurant  
Geno's Cafe Roma  
Pearl Hall Restaurant  
Hering's Tavern  
John's Pizza  
Kegels Inn  
Koster Tavern  
Lakeshore Restaurant  
Lisbon Avenue Drive-In  
Lloyd's Lunch  
Mid City  
Phillips Cafeteria  
Red's Lunch  
Rothe's Restaurant  
Silver Crest Restaurant  
Skows Avenue Restaurant  
Snyder's Restaurant  
Susnik's Tap  
Tiny Lemke's Tavern  
Underwood Court  
Wells Grill  
Billy Mitchell Field  
Yankee Doodle Drive-In

Al's Frozen Custard Stand  
Arlene's Harmony Restaurant  
The Black Steer  
Cape Cod Inn  
Capitol Drive Inn  
Chicken Delight  
Circle Lounge  
Clara's Restaurant  
Club 113  
Darlane Shops, Inc.  
Dixie Dinette  
Fischer's Sandwich Shop  
Frenchle's  
George Webb Corporation  
Green Bay Restaurant  
HI Fire Drive Inn  
Honeymoon Bungalow  
Izzo's  
John Ernst  
Kalla's Kitchen  
Lenn's  
Little Diner  
Sauer's Restaurant  
Marc's Big Boy Restaurant  
Mazo's Restaurant  
Mick's Old Heidelberg  
Milky Way Drive Inn  
People's Lunch  
Pete Richards  
Port Silver Diner  
Royal Coffee Shop  
Shorty's Restaurant  
Sally's Coffee Shop  
Steuben Restaurant  
Towne Fryer, Inc.  
Vagabond House  
Volpano's

### CLUBS

Bluemound Country Club  
Brynwood Country Club  
New Milwaukee Aerie #1037, F. O. E.  
Elks Club

Knights of Columbus  
Milwaukee Club  
North Shore Country Club  
Town Club

Wisconsin Club

### HOTELS

Ambassador Hotel  
Blatz Hotel  
Towne Hotel

Plaza Hotel  
Royal Hotel  
Westgate Hotel

Wisconsin Hotel

### MOTELS

Blue Crest Motel  
Capitol Manor  
Continental Motel  
Edge of Town Motel  
Cozy Circle

Dreamland Motel  
East-Way Motel  
El Rancho Motel  
Embassy Motel  
Lynx Motel

### IN-PLANT FEEDING

Allen-Bradley  
Associated Hospital Service  
Baso, Inc.  
Continental Can  
Employers Mutual  
Falk  
General Electric  
Globe Union  
International Harvester  
Kearney and Trecker

Kyle Company  
Ladish Company  
Line Material Company  
Milprint, Inc.  
Northwestern National Ins.  
Nunn Bush Shoe Company  
Plankinton Packing  
Rhea Manufacturing  
Square "D"  
Wisconsin Electric Power Co.

Wisconsin Telephone Company

### HOSPITALS AND WELFARE INSTITUTIONS

Badger Association of Blind  
Catholic Home for the Aged  
Friendship House  
Girls Club Association  
Home for Aged Lutherans  
Jewish Home for the Aged  
Lutheran Childrens Friends Society  
Lutheran Walther League Girls Home  
Memorial Hospital  
Milwaukee Hospital  
Milwaukee Sanitarium Foundation  
Misericordia Hospital  
Mt. Sinai Hospital

Rescue Mission  
St. Ann's Rest Home  
St. Anthony's Hospital  
St. Camillus Hospital  
St. Charles Home for Boys  
St. John's Home  
St. Joseph's Hospital  
St. Mary's Hospital  
St. Rose's Home for Girls  
Scandinavian-American Old  
People's Home  
Trinity Memorial Hospital  
Veterans Administration

Y. W. C. A.

## SCHOOLS

Alverno College Residence Hall  
Cardinal Stritch College  
Franklin  
Greenfield High School  
Hales Corners  
Milwaukee Public Schools  
Oak Creek - Franklin Joint City School District #1  
Plus XI High School  
Shorewood  
West Allis Public Schools  
Whitefish Bay  
Wisconsin Lutheran High School

## PUBLICATIONS AVAILABLE

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Services ..... \$2.00
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TO DETERMINE THEIR BACKGROUND AND OPINIONS ON  
MODERN EDUCATION FOR ADVERTISING - 1959** ..... \$2.00
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Milwaukee Chapter of the National Office Management  
Association - 1959 ..... \$2.00
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THE TAX COURT OF THE UNITED STATES: BURDEN  
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lems of Computer Installation as reported by 61 Companies... \$4.00
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CHALLENGE AND OPPORTUNITY** - Proceedings of the  
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Proceedings of the Third Marquette University Advertising  
Conference - 1957 ..... \$2.50
- MARQUETTE UNIVERSITY INSTITUTES ON TAXATION**  
Volumes 1 through 6, Years 1950 through 1956 (each) ..... \$7.50

CENTER FOR BUSINESS SERVICES  
MARQUETTE UNIVERSITY  
MANAGEMENT CONFERENCES

Summer Program 1961

RESEARCH IN BUSINESS

Fee \$150.00

July 24 (Monday)	Use of Research  A session geared to the role of research in today's economy and how it will influence research in the future. A review will be conducted on theoretical research. Each enrollee will be assigned a research report which will be evaluated on Thursday.
July 25 (Tuesday)	Presentation of Data  A session involving the construction of tabular and graphic tools. Good and bad tables will be analyzed together with mental processes.
July 26 (Wednesday)	Writing of Reports  A session designed to aid the research person write interesting reports that are clear, concise, and easily understood.
July 27 (Thursday)	Analysis of Research Cases  A session that concentrates on the study of selected research cases which specifically show the various principles and formulae used in the conduct of proper research.
July 28 (Friday)	Basic Sampling Techniques  A refresher course on the basic techniques of sampling. This program will indicate how to select good samples, how to gather pertinent data, how to build a good questionnaire.
July 29 (Saturday)	Interpretation of Statistics  A session at which the groundwork will be laid for the correct interpretation of various reports originating in business today.

UNDERSTANDING AND SUPERVISING  
THE CREATIVE EMPLOYEE

\$250.00

August 14 (Monday)	Behavior and Creativity  The role of the supervisor in accomplishing objectives. Understanding the professional creative employee. Behavior and its causes.
August 15 (Tuesday)	Motivation and Leadership  The motivating and preventing of frustrations. Patterns of leadership in working with professional people. Your self image.
August 16 (Wednesday)	Selection and Evaluation  The supervisor's role in selecting, assigning and orienting the new employee. Problems of appraisal. Evaluation of professional and creative employees.
August 17 (Thursday)	Development and Communications  The process, problems, and program of communications -- development of individual staff members. Principles of instruction.
August 18 (Friday)	The mental climate and team approach. Necessary guide posts to accomplish objectives. Discussion of the individual group members' problems.

Enrollment in these programs will be limited. All sessions will be held in the air-conditioned Brooks Memorial Union at Marquette University.







